

TECHNICAL REVIEW DOCUMENT
for
OPERATING PERMIT 04OPLA269
to be issued to:

Pioneer Natural Resources, USA
Cottontail Pass Compressor Station

Las Animas County
Source ID 0710030

Prepared by Geoffrey Drissel
September 2011

I. Purpose:

This document will establish the basis for decisions made regarding the applicable requirements, emission factors, monitoring plan and compliance status of emission units covered by the renewal operating permit proposed for this site. The original Operating Permit was issued January 1, 2006. This document is designed for reference during the review of the proposed permit by the EPA, the public, and other interested parties. The conclusions made in this report are based on information provided in the renewal application submitted December 7, 2009, previous inspection reports and various e-mail correspondence. Please note that copies of the Technical Review Document for the original permit and any Technical Review Documents associated with subsequent modifications of the original Operating Permit may be found in the Division files as well as on the Division website at <http://www.cdphe.state.co.us/ap/Titlev.html>.

Any revisions made to the underlying construction permits associated with this facility made in conjunction with the processing of this operating permit application have been reviewed in accordance with the requirements of Regulation No. 3, Part B, Construction Permits, and have been found to meet all applicable substantive and procedural requirements. This operating permit incorporates and shall be considered to be a combined construction/operating permit for any such revision, and the permittee shall be allowed to operate under the revised conditions upon issuance of this operating permit without applying for a revision to this permit or for an additional or revised Construction Permit.

II. Source Description:

This facility consists of five 3300 HP compressor engines. The facility compresses coal-bed methane gas for sales to a pipeline, and is defined under Standard Industrial Classification 1311. The engines are equipped with oxidation catalysts to control CO, VOC, and formaldehyde emissions. The engines are fueled with coal seam gas.

The facility is located in Las Animas County in southeastern Colorado. New Mexico is an affected state located within 50 miles of the plant. The Great Sand Dunes National Monument and Wheeler Peak National Wilderness Area (located in New Mexico) are Federal Class I designated areas located within 100 kilometers of the plant.

The area in which the plant operates is designated as attainment for all criteria pollutants. Based on the information provided by the applicant, this source is categorized as a minor stationary source for PSD purposes. Facility wide emissions are as follows:

<u>Pollutant</u>	<u>Current PTE (tpy)</u>	<u>2008-2009 Actual (tpy)</u>
NOx	150.8	113.8
VOC	19.8	14.7
CO	70.7	53.5
Formaldehyde	9.8	7.4

Potential emissions are based on emission limits in the current Operating Permit. Actual emissions are based upon a field inspection report submitted in September 2009. This source is required to provide an updated APEN for each emission unit in the event that emissions of NOx increase 5% or 50 tons per year and/or CO or VOC increase 5 tons per year above the level reported on the last APEN submitted to the APCD.

MACT Applicability

HHH – Natural Gas Transmission and Storage:

The Cottontail Pass Compressor Station is not a natural gas transmission and storage facility as described in 40 CFR Part 63 Subpart HHH, “National Emission Standards for Hazardous Air Pollutants From Natural Gas Transmission and Storage”. The Cottontail Pass Compressor Station is an upstream natural gas production-related gathering and compression station and thus is not subject to this MACT.

HH – Oil and Natural Gas Production Facilities:

Under the provisions of 40 CFR Part 63 Subpart HH, “National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities” (Oil and Natural Gas Production MACT), only HAP emissions from glycol dehydrators and storage vessels with the potential for flash emissions need to be aggregated to determine whether the facility is a major source for HAPs for production field facilities. The Cottontail Pass Compressor Station meets the definition of a production field facility, and includes three glycol

dehydrators and no storage vessels with the potential for flash emissions. PTE from the glycol dehydrators combined are less than 10 tpy of each individual HAP and less than 25 tpy of total HAPs. Therefore, the facility is not subject to the MACT HH requirements that apply at major HAP sources.

The Oil and Natural Gas Production MACT includes requirements for triethylene glycol (TEG) dehydrators at area sources of HAPs, but exempts TEG dehydrators with actual average benzene emissions of less than 0.9 megagrams per year from control requirements and/or operating limitations. Benzene emissions from each dehydrator at this facility are less than 0.9 megagrams per year and are therefore subject only to the requirements to establish the exemption and maintain records (40 CFR §§63.764 (e)(1) and (d)(1)).

Note that the dehydrators at the facility are not exempt from APEN filing requirements (Regulation No. 3, Part A, II.D.1), and are not exempt from construction permitting requirements (Regulation No. 3, Part B, II.C) because the area source requirements of MACT HH have been adopted and promulgated into Colorado Regulation No. 8 at this time.

ZZZZ – Stationary Reciprocating Internal Combustion Engines:

Under the rules for reciprocating internal combustion engines, for production field facilities, only emissions from glycol dehydrators, storage vessels with the potential for flash emissions, reciprocating internal combustion engines and combustion turbines need to be aggregated to determine if the facility is a major source for HAPS. Total HAP emissions for this facility, based on permitted production, have been calculated to be less than major source levels. MACT ZZZZ requirements for engines at major sources of HAPs therefore do not apply.

MACT ZZZZ includes requirements for engines located at area sources of HAPs. Based on manufacturing dates and commencement of operation dates, MACT ZZZZ requirements apply to the engines at this facility. All of these engines are considered existing and must comply with the requirements set forth in ZZZZ.

NSPS Applicability

KKK - Onshore Natural Gas Processing Plants

NSPS KKK describes requirements for limiting emissions of fugitive VOC's from onshore natural gas processing plants. The Cottontail Pass Compressor Station does not meet the definition of an onshore gas processing plant and thus is not subject to this NSPS Subpart.

JJJJ - Standards of Performance for Stationary Spark Ignition Internal Combustion Engines

NSPS JJJJ includes requirements for spark ignition internal combustion engines that commenced construction (i.e., ordered by the owner or operator) after June 12, 2006 (40 CFR §60.4230(4)) or commenced modification or reconstruction after June 12, 2006 (40 CFR §60.4230(5)). Based on construction and manufacturing date records provided by Pioneer, NSPS JJJJ requirements do not apply to these engines.

Reg 7 Applicability

Section XVII.E.2.b - Section XVII.E.2.b applies statewide to engines that commenced construction or relocation into Colorado after July 1, 2007 (for engines greater than 500 horsepower). The engines at this facility were constructed before these dates and, thus, the requirements of this section do not apply.

Section XVII.E.3.b - Section XVII.E.3.b applies statewide and requires all existing natural gas-fired lean burn engines with manufacturer's nameplate design rating greater than 500 hp to install and operate an oxidation catalyst by July 1, 2010. All engines at this facility are currently operated with oxidation catalysts.

III. Discussion of Modifications Made:

Source Requested Modifications

The source requested that the following changes be made to the renewal Operating Permit:

- Revisions to the Facility Contact Person
- Deletion of two engines that were never constructed (P006 and P007)

Other Modifications

In addition to the requested changes, the Division has included changes to make the permit consistent with recently issued permits, to include comments made by the EPA on other Operating Permits, to reflect updated and current Regulatory language, as well as to correct errors or omissions identified during review of this renewal. These changes are as follows:

Section I - General Activities and Summary

- Condition 1.1 was revised to reflect the most current facility configuration.
- Condition 1.4 was revised to reflect the most recent references.

- Condition 2 was revised to reflect the most current language regarding the facility AOS
- Condition 3 was revised to reflect the most current language regarding the PSD status of the source.

Section II - Specific Permit Terms

- The language regarding the presumption of compliance with the opacity standard if natural gas is used as fuel was updated to reflect the current version.
- Language was added to the Caterpillar engine conditions regarding the applicability of NESHAP Subpart ZZZZ and Colorado Regulation No. 7.
- Specific conditions regarding the three TEG dehydrators were added concerning the applicability of NESHAP Subpart HH.

Section III – Permit Shield

- The shield citation was updated to reflect the most current reference.

Section IV - General Conditions

- The General Conditions section was replaced with the most current version.

Appendices

- Appendices B and C were revised to reflect the current versions.
- The EPA addresses in Appendix D were updated.
- Appendix G (Applicability Reports) was added as part of the AOS update.

IV. Greenhouse Gasses:

In 2009 and 2010, EPA issued two rules related to Greenhouse Gasses (GHG) that may affect this facility.

On October 30, 2009, EPA published a rule for the mandatory annual reporting of GHG emissions to EPA from large GHG emissions sources in 40 CFR part 98. This source may be required to identify GHG emissions in future Title V permit applications. Such identification may be satisfied by including some or all of the information reported to EPA to meet the GHG reporting requirements.

On May 13, 2010, EPA issued a final rule that sets thresholds for GHG emissions that define when permits under the New Source Review Prevention of Significant Deterioration (PSD) and Title V Operating Permit programs are required for new and existing industrial facilities. Future new construction and/or modifications at

this facility may be subject to PSD review for GHG emissions.